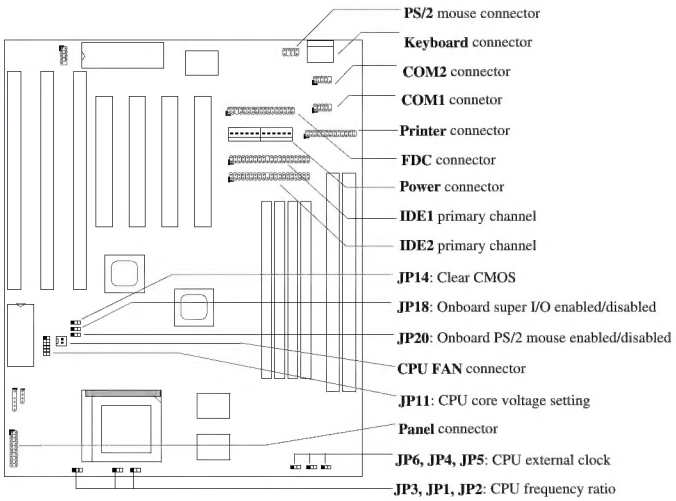
Quick Installation Guide

Thanks for purchasing AOpen's AP5T motherboard. This Guide will help you installing the system. Following figure shows the location of the jumpers and connectors on the motherboard:



AP5T-3 implements many special features as following:

Suspend to Hard Drive Supported by BIOS, save your work to hard disk and resume within a very short time.

Over-current Protection 3.3V 10A and CPU core 15A over-current protection to prevent any accident short circuit.

CPU Thermal Protection Warning when CPU temperature is higher than predefined value.

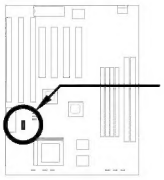
Switching Regulator High efficient switching regulator for future CPU.

75/83.3MHz External Clock For user's convenience, AP5T-3 supports 75/83.3MHz external clock. Please note that it is user's risk to do over-clocking.

Note: This Quick Installation Guide is only for quick reference. For more information, please see the User's manual.

Setting CPU Core Voltage

JP11 is used to select CPU core voltage.



3.45V
P54C

3.52V
Cyrix 6x86
AMD K5

2.9V
K6-166
K6-200
M2

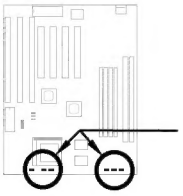
2.8V
MMX P55C

3.2V
K6-233

Quick Installation Guide

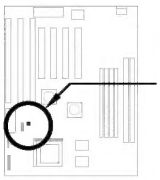
Setting CPU Frequency

JP3,**JP1** and **JP2** are used to select the CPU frequency. **JP6**,**JP4** and **JP5** are the selections of CPU external clock (bus clock).



	JP3	JP1	JP2	JP6	JP4	JP5
Intel MMX-166, K6-166, M2-200	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Intel MMX-200, K6-200, M2-233	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Intel MMX-233, K6-233, M2-266	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3

Connecting CPU Fan

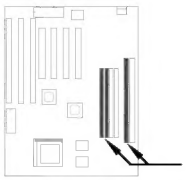


Plug in the fan cable to the two-pin **FAN** connector onboard. Attach the heatsink and fan to the CPU. Please make sure that you have installed CPU fan properly if Intel PP/MT-233 or AMD K6-200/233 is being selected to use. It may cause your system unstable if you can not meet the heat dissipation requirement of above CPU type.

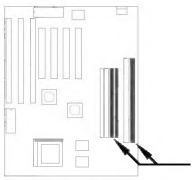
Warning: *It is recommended to adopt a larger fan on PP/MT-233 or AMD K6-200/233 for better air flow in the system. Refer to AOpen's web site (http://www.aopen.com.tw) to choose a proper CPU fan.*

Installing System Memory

This motherboard has four 72-pin SIMM and two 168-pin DIMM sockets that allow you to install system memory from minimum 8MB up to maximum 256MB. For double side memory module, there is one limitation. The simple rule is: If double side module at either Bank0 or DIMM1, the other must be empty. Bank1 and DIMM2 have the same limitation.



Double side module at either Bank0 or DIMM1, the other must be empty.



Double side module at either Bank1 or DIMM2, the other must be empty.

Compatibility issue between Intel PIIX4 chipset & Seagate HDD

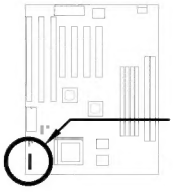
Some of Seagate HDD models listed below may have compatibility issue with 3.3V PIIX4 chipset (Intel 440LX and 430TX PCIset). These HDD can only accept 3.1V as high level signal (actually, it should be 2.0V for TTL), and PIIX4 uses 3.3V, that makes these HDD have possibility that can not recognize output from PIIX4. Please avoid of using these HDD.

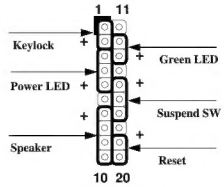
Belize: ST32177A, ST31720A, ST32531A and ST33240A.

Maui (without Ultra DMA support): ST31010A, ST32120A, ST31721A, ST33220A and ST34340A.

Connecting Front Panel Cable

Attach the power LED, keylock, speaker, reset switch, suspend switch, and green mode LED connectors to the corresponding pins.





Warning: *If you use toggle mode Turbo switch as Suspend switch, be sure to push it twice to simulate momentary mode. Otherwise the system may hang or fail to reboot.*

Load BIOS Setup Default

To enter the BIOS Setup, press DEL during POST (Power-On Self Test). Choose "Load Setup Defaults" for recommended optimal performance. Please avoid using "Load Turbo Defaults", unless you are sure your system components (CPU, DRAM, HDD, etc.) are good enough for turbo setting. For detailed information, please refer to "AWARD BIOS" section in the User's Manual.

Eliminate "?" marks in Win95

Intel has introduced 430TX or 440LX chipset with latest feature of "ACPI", "USB" & "Ultra DMA/33". Since these devices are so new that Win95 did not anticipate to support them on Aug. of '95 which Win'95 initially is being released. To solve this problem, AOpen software team spends few weeks to develop an utility --AOchip.exe. You can find this utility in the bundled CD title or from our web site (www.aopen.com.tw). It is very user friendly and can be used on any TX/LX mainbaord, not limited to AOpen's motherboard. For using this utility, run aochip.exe directly.

Installing Ultra DMA/33 Driver

The Ultra DMA/33 IDE driver is available in the bundled CD title or our homepage. You may run setup.exe directly to install this program. After installation, you will see following under Device Manager:

-Hard Disk Controllers
Intel 82371AB PCI Bus Master IDE Controller
Primary Bus Master IDE Controller
Secondary Bus Master IDE Controller

CPU Thermal Protection

When CPU temperature is higher than a predefined value, the CPU speed will automatically slow down and the PC speaker will beep. To work with this feature, please set the option **BIOS Setup ‡ Integrated Peripherals ‡ CPU Thermal (Temp.)** to **Monitor**.
In addition, AOpen software team also develope an utility HWMON, which can help you monitor the CPU temperature and voltage. This program is available in the bundled CD title or our homepage.

Quick Installation Guide

How to use Suspend to Hard Drive?

Option 1: Use /**file** switch (applied to FAT16 file system):

Please use following command to create a hidden file in your hard disk for Suspend to Hard Drive to save your system status and memory image.

C:>AOZVHDD /c /file

Please make sure that you have enough continuous HDD space for creating this hidden file. For example, if you have 32MB of system memory and 4MB of VGA memory, you need at least 36MB (32MB + 4MB) of continuous HDD space. If AOZVHDD failed to allocate the HDD space, you may run "DEFRAG" Utility or "Disk Defragmenter" which come with MS-DOS or Win'95 to free HDD space.

Option2: Use /**partiton** switch (applied to FAT16/FAT32 file system):

To create a separate partiton for Suspend to Hard Drive, please make sure you have reserved a free partition. We suggest you reserve the free partition which space is appropriate for your future memory expansion. For example, if you have 32MB of system memory and 4MB of VGA memory currently, but you plan to upgrade system memory to 64MB in the near future, then you may reserve a 68MB (64MB+4MB) space by using a disk utility (such as fdisk). Next, use following command to create a suspend partition:

C:>AOZVHDD /c /partition

If there is no extra free partition and you don't want your data lost, please do not use this partition method.

For more information, please refer to user's manual.

How to Upgrade BIOS?

To upgrade your BIOS, please follow the steps as below:

1. Get new BIOS binary file from AOpen's web site. For example, AP5T150.BIN.
2. Bootup the system from floppy without loading any memory handler (such as EMM386) or device driver.
3. Execute C:> AOFLASH AP5T150.BIN
4. After loading the new BIOS code, the utility will prompt you to save original BIOS code into your HDD or floppy. Please press "Y" to store it as "BIOS.OLD".
5. After the old BIOS has been successfully saved, press "Y" to replace BIOS.
6. DO NOT turn off the power during "FLASHING".
7. Reboot the system by turn off the power after "FLASHING".
8. Press "DEL" key to enter BIOS setup during POST.
9. Reload the "BIOS SETUP DEFAULT" and reconfigure other items as previous set.
10. Save & Exit. Done!

For more information, please refer to "BIOS Flash Utility" in the user's manual.

More help for latest information:

Taiwan:	***http://www.aopen.com.tw***
USA:	***http://www.aopenamerica.com or http://www.aopen-usa.com***
Europe:	***http://www.aopen.nl***

DOC NO. : AP5TQG-3-E9710A